

**Remarks**

*A. Status*

Claims 1-33 were previously pending. Claims 1, 5, 7-12, and 14-15 have been amended. Claims 17-22 have been withdrawn in view of a restriction requirement. No new matter has been added.

*B. Election/Restrictions*

Applicants confirm their previous election, without traverse, to prosecute the Group I claims—claims 1-16. Claims 17-33 have been withdrawn.

*C. Claim Objections*

The Examiner has objected to claims 5 and 15. Applicants have amended claims 5 and 15 pursuant to the Examiner's recommendation to overcome this objection.

*D. Claim Rejections Under Section 112, Second Paragraph*

Claims 1-16 stand rejected under 35 U.S.C. § 112, second paragraph as being allegedly indefinite. Claims 1 and 7 are said to be unclear because of their use of the term “substantially constant.” Terms of degree do not automatically render a claim indefinite. M.P.E.P. § 2173.05(b). The term “substantially” has been held definite when the specification includes guidelines concerning the term or when one of ordinary skill in the art would know what is meant by the term. M.P.E.P. § 2173.05(b)(D). Here, one of ordinary skill in the art would know what is meant by the use of “substantially” in claims 1 and 7, and the specification provides explicit guidelines concerning the term's meaning. *See* Specification, page 10, line 28 - page 11, line 2. Accordingly, claims 1 and 7 comply with Section 112, second paragraph, and Applicants respectfully request removal of this rejection.

Claims 8-12 and 14 are said to be indefinite because “the electrode” lacks antecedent basis. These claims have been amended to recite “electrodes,” providing proper antecedent basis from independent claim 7 and overcoming this rejection.

*E. Section 102 Rejections*

Claims 1-3, 7, 8, and 11 stand rejected under 35 U.S.C. § 102(b) as being allegedly anticipated by WO 00/37628 (U.S. equivalent Patent No. 6,492,125, referred to as the ‘125 patent) to Muller. Applicants respectfully disagree with this rejection and request its removal.

*1. Claims 1-6 Are Not Anticipated*

Independent claim 1 involves “effecting electroporation by displacing a sample across electric field lines ... while the field is substantially constant in terms of magnitude.” Nowhere does Muller disclose these features. Specifically, the present Office Action appears to ignore claim 1’s recitation that electroporation is (a) **effected by the sample displacement** and (b) the substantially constant nature of the field. Muller discloses neither, and the citations in the Office Action address neither feature.

Additionally, claim 1 has been amended to clarify that “the field is generated with electrodes that are **continuously energized** at least while the sample traverses the electric field.” Support for this amendment may be found in the Specification at, for example, page 29, lines 13-20. There, it is explained how “continuously energized” electrodes distinguish over conventional types of pulsing by remaining on for at least the time period in which the sample is moving through the electric field. In this way, duty cycles according to embodiments of this invention can be significantly higher than those of conventional devices and can, in some embodiments, even approach or equal 100%. *See*, Specification at, *e.g.*, page 13, line 16 - page 14, line 10.

Muller fails to disclose these features. Rather, it is clear that Muller is directed to the conventional types of pulsing distinguished by the claims and the Specification. *See* Muller's '125 patent at col. 1, line 19 (“permeation by means of **short electrical pulses**”); col. 3, line 18 (“the electrodes (**pulse electrodes**) have field-forming devices); col. 3, lines 41-42 (“**electroporation pulse amplitudes**”); col. 4, lines 30-34 (confirming that the electroporation being discussed is conventional and stating “**permeation pulses** will not be explained in detail ... .”); col. 5, line 33 (“**permeation pulses**”); col. 7, lines 36-38 (discussing “**pulse voltages**”); col. 8, lines 56-58 (“**Electroporation is based on the effect of a DC voltage pulse** on the object to be treated.”); col. 9, lines 4-5 (discussing DC “**voltage pulse**”) (emphases added). Muller nowhere discloses or even suggests continuously energized electrodes like those recited in amended claim 1 or the method of electroporation effected by displacement.

At least because Muller lacks disclosure of explicit elements of claim 1 as described above, there can be no anticipation of claim 1 or its dependent claims 2-6. Accordingly, Applicants respectfully request removal of the present anticipate rejection as applied to claims 1-6.

## 2. *Claims 7-16 Are Not Anticipated*

Independent claim 7 is not anticipated for reasons similar to those given with respect to claim 1. Claim 7 involves “displacing the pair of electrodes and a sample relative to one other while the electric field is substantially constant ... to effect electroporation.” Nowhere does Muller disclose electroporation **effected by such displacement** or the substantially constant nature of the field. Additionally, claim 7 has been amended to clarify that “the pair of electrodes are continuously energized at least during displacement of the pair of electrodes and the sample relative to one another.” Muller fails to disclose these or any related features such as increased

duty cycles. Instead, Muller confirms that it is directed to the conventional types of pulsing distinguished by the claims and the Specification. *See* citations above. Muller nowhere discloses or even suggests the continuously energized electrodes of amended claim 7 or the method of electroporation effected by displacement.

At least because Muller lacks disclosure of explicit elements of claim 7, there can be no anticipation of claim 7 or its dependent claims 8-16. Accordingly, Applicants respectfully request removal of the present anticipate rejection as applied to claims 7-16.

*F. Section 103 Rejections*

Claims 1-13 stand rejected under 35 U.S.C. § 103 as being allegedly obvious in view of Muller combined with U.S. Patent No. 6,368,851 (“Baumann”) or U.S. Patent Publication No. 2004/0029240 (“Acker”). Applicants respectfully disagree with this rejection and request its removal.

As discussed above, Muller nowhere discloses or suggests the continuously energized electrodes of independent claims 1 and 7. Neither Baumann nor Acker fill this void. Baumann nowhere mentions or suggests continuously energized electrodes as claimed. Further, Baumann appears to teach against electroporation effected by displacement by instructing readers that a cell to be electroporated should be “**immobilized**” and adhered to a support area during electroporation. Baumann, col. 10, line 67 - col. 11, line 1 (emphasis added). Acker nowhere mentions or suggests continuously energized electrodes. In fact, Acker (like Muller) is explicitly directed to the conventional types of pulsing distinguished by the claims and specification: “A capacitor network applies alternating **positive and negative pulses of high voltage across the electrodes ... to electroporate the cells.**” Acker, Abstract (emphasis added).

For at least these reasons—all the claim elements are not met, even upon combination—no *prima facie* case of obviousness can be established, and the claims are in condition for allowance. Applicants also point out that each of the cited references is drawn to different technological areas and purposes. There is no motivation to combine their elements. Even if a combination were or could be made, the principle of operation of the devices would likely be destroyed, and the Examiner has not provided any evidence concerning a reasonable expectation of success. Applicants respectfully request the withdrawal of the present obviousness rejection.

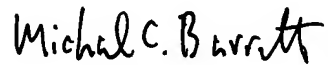
*G. Conclusion*

The present application is believed to be in condition for allowance. If there are any questions or concerns, the Examiner is invited to contact the undersigned attorney at 512-536-3018 or by e-mail at [mbarrett@fulbright.com](mailto:mbarrett@fulbright.com).

**Petition for Extension of Time**

Applicants petition for an extension of time of one month up to and including March 27, 2006 (March 25th fell on a Saturday) in which to respond to the present Office Action. The Office is hereby authorized to deduct the small entity petition fee for a one-month extension of time (\$60.00), including any other additional fees that may be required under 37 C.F.R. 1.116 to 1.121 related to the filing of this document, from Fulbright & Jaworski Deposit Account No. 50-1212/MAXC:014US/MCB.

Respectfully submitted,



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